

B. Dead-End Strain Assemblies

Each assembly was arranged for testing in accordance with the drawing except that the tower-side fittings were not used. All of these assemblies were tested in a vertical plane. The tower side of the assembly was supported from the overhead crane by means of short cables allowing the insulators, hardware, and conductors to hang in a vertical position.

Actual lengths (approximately 25 ft. long) of the ACSR conductor (2156 MCM Bluebird) planned for installation in the field were attached to the line side hardware by means of ALCOA compression dead-end fittings. Shorter lengths, approximately 8 ft. long, of the ACSR conductor were attached to compression terminal fittings and bolted to the dead-end fittings of the "line" conductors to simulate the jumpers. All of the terminal fittings were installed on the cable by ALCOA personnel. The ends of both the "main" conductors and the "jumper" conductors were terminated with 40 inch diameter corona shield assemblies in order to suppress corona and RIV from the conductor ends. A nylon rope was used to hold and position the jumper conductors in the proper configuration with respect to the insulator assembly.

A sketch of the setup for these assemblies is referenced in the TEST RESULTS, Section 2. Sufficient detail is given to show clearances to the floor, walls, ceiling and fences.

II. TEST PROCEDURES

A. Visual Corona Voltage

The visual corona voltage was determined with the naked eye. Generally, the voltage was applied to the assembly at about the 400 kv level with the laboratory in total darkness. All sources of corona were located and identified. Then the voltage was slowly lowered and the extinction of corona from each source was noted and recorded as a "corona voltage." All data was obtained by this general procedure unless otherwise noted.

B. Radio Influence Voltage (RIV)

The RIV characteristic was determined by applying a relatively low voltage of approximately 100 kv and gradually increasing the voltage in steps small enough to obtain sufficient data to properly define the shape of the RIV curves. Generally the RIV reading was taken in 25 kv intervals. Smaller voltage intervals were taken when necessary to define large changes in the data.

Prior to the above tests and recording of any data, the assemblies were subjected to several minutes of high voltage in order to cause such foreign bodies as lint and dust to become dislodged and "burned-off." This practice is quite beneficial in removing stray bits of material which have been collected during the construction or picked up from the floor.

SECTION 2

TEST RESULTS

IV. Type IV - Vee String Suspension Assembly

A. Description

The assembly was set up for test in accordance with Drawing N-1859 Sheet 18.

In order to effect the necessary configuration of a restrained pull-off assembly, the twin 30,000 lb. insulator strings were attached to the wall of the laboratory so that a nylon rope, which was attached to the yoke plates, could be used to strain this string to a 75 degree angle. The 40,000 lb. insulator string was attached to the overhead crane as outlined in the general PROCEDURES. The actual configuration obtained is shown in the attached sketch (Fig. 3).

B. RIV Results

<u>Applied Voltage (kv)</u>	<u>RIV (Microvolts)</u>
100	16
126	16
151	30
176	55
201	80
224	100
250	160
275	175
301	300
320	400
351	1000

See Fig.11 for plot of RIV vs. Voltage.

C. Visual Corona Results

<u>Corona Voltage (kv)</u>	<u>Location of Corona</u>
364	Lip of clamp on the conductor which is on the inside of line angle

D. Atmospheric Conditions

Barometric Pressure	30.16 Inches Hg.
Dry Bulb Temperature	73 degrees F.
Wet Bulb Temperature	62 degrees F.
Vapor Pressure	0.426 Inches Hg.

E. Date of Test

June 16, 1965.